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EXAMINER

MEINECKE DIAZ, SUSANNA M

ART UNIT PAPER NUMBER

3694

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/608,595

Applicant(s)

O'FLAHERTY, KENNETH W

Examiner

Susanna M. Diaz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This final Office action is responsive to Applicant's amendment filed September 18, 2006.

Claims 1-9, 15-23, and 29-37 have been amended.

Claims 1-42 are presented for examination.

Response to Arguments

2. Applicant's arguments filed September 18, 2006 have been fully considered but they are not persuasive.

Applicant argues the following:

At the indicated locations, Pham merely describes predictive modeling and data mining, but nothing describe at these locations relates to "the derived measure" being "invoking within an application template that is a sequence of segments, filters, measures and functions linked together in a workflow." Indeed, nothing at these locations in Pham discusses anything equivalent to such an application template. Instead, Pham merely describes knowledge models generally and neuroagents specifically, but neither concept reads on application templates that are used to save sequences of a workflow. (Page 14 of Applicant's response)

The Examiner respectfully disagrees. First, it should be noted that saving sequences of a workflow is not recited in the claims. Additionally, col. 13, lines 1-12, 40-55 and col. 14, lines 58-67 of Pham disclose that the Knowledge Model engine generates a knowledge model based on data mining techniques. Col. 19, lines 4-52 and col. 20, lines 8-67 explain how the knowledge model is applied to categories or bins of data. As per col. 9, line 41 through col. 12, line 54, neuroagents, programmed with

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various neuroexpressions, may be used during the learning and training phases. In order to accomplish this functionality, a workflow linking the elements of segment, filter, measure, and function is carried out. For example, Applicant's specification defines a "function" as "a control for splitting, merging, and branching." Pham splits the AGE parameter into several categories, such as baby (age 0-1) and toddler (ages 1-3) (col. 19, lines 28-52). In other words, the AGE parameter has been split and branched off into two age categories. Those aged 0-1 are merged into the baby category while those aged 1-3 are merged into the toddler category. This also means that AGE is a segment that is filtered into various sub-segments. By acting upon the AGE data to perform an evaluation or prediction (as generally seen in col. 14, lines 58-64; col. 19, lines 18-52; col. 20, lines 25-28), measures are applied to the segments. The segments, filters, measures, and functions are called upon as needed, thereby representing a link among these elements through a workflow. Similarly, Pham presents various examples of applying predictions and evaluations to various types of segments. For example, segments may be analyzed based on sex, marital status, number of children, etc. to determine a best sales campaign to launch based on scoring results (discussed in col. 32, lines 24-47). Figures 8-23(b) show various interfaces (or application templates) utilized by a user to access and specify various segment, filter, measure, and function information.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 3, 16, 17, 30, and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 16, and 30 recite that "the sequence linked together in the workflow is represented as icons that are linked together, wherein connecting arrows between the icons determine a sequence of execution and a flow of data." Since a single sequence is represented as multiple icons, it is not clear what each icon represents. In the independent claims (from which claims 2, 16, and 30 respectively depend), a sequence is comprised of segments, filters, measures, and functions linked together in a workflow. Is there an icon for each segment, filter, measure, and function that forms the sequence?

Claims 3, 17, and 31 are dependent from claims 2, 16, and 30 and therefore inherit the same rejection.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 4-15, 18-29, and 32-42 are rejected under 35 U.S.C. 102(a, e) as being anticipated by Pham et al. (U.S. Patent No. 5,970,482).

Pham discloses a computer-implemented system for using predictive models within a computer-implemented business analysis environment, comprising:

[Claim 15] (a) means for applying a derived measure against a segment, wherein the derived measure comprises a predictive model previously-built by a model-building mechanism in a data mining system (col. 13, lines 1-12, 40-55; col. 14, lines 58-67 -- The Knowledge Model engine generates a knowledge model based on data mining techniques; col. 19, lines 4-52; col. 20, lines 8-67 -- The knowledge model is applied to categories or bins of data; col. 9, line 41 through col. 12, line 54 -- Neuroagents, programmed with various neuroexpressions, may be used during the learning and training phases), wherein the derived measure is invoked within an application template that is a sequence of segments, filters, measures and functions linked together in a workflow (col. 13, lines 1-12, 40-55; col. 14, lines 58-67 -- The Knowledge Model engine generates a knowledge model based on data mining techniques; col. 19, lines 4-52; col. 20, lines 8-67 -- The knowledge model is applied to categories or bins of data; col. 9, line 41 through col. 12, line 54 -- Neuroagents, programmed with various neuroexpressions, may be used during the learning and training phases. In order to accomplish this functionality, a workflow linking the elements of segment, filter, measure, and function is carried out. For example, Applicant's specification defines a

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“function” as “a control for splitting, merging, and branching.” Pham splits the AGE parameter into several categories, such as baby (age 0-1) and toddler (ages 1-3) (col. 19, lines 28-52). In other words, the AGE parameter has been split and branched off into two age categories. Those aged 0-1 are merged into the baby category while those aged 1-3 are merged into the toddler category. This also means that AGE is a segment that is filtered into various sub-segments. By acting upon the AGE data to perform an evaluation or prediction (as generally seen in col. 14, lines 58-64; col. 19, lines 18-52; col. 20, lines 25-28), measures are applied to the segments. The segments, filters, measures, and functions are called upon as needed, thereby representing a link among these elements through a workflow. Similarly, Pham presents various examples of applying predictions and evaluations to various types of segments. For example, segments may be analyzed based on sex, marital status, number of children, etc. to determine a best sales campaign to launch based on scoring results (discussed in col. 32, lines 24-47). Figures 8-23(b) show various interfaces (or application templates) utilized by a user to access and specify various segment, filter, measure, and function information); and

(b) means for generating output for the segment from the predictive model in the form of measure values (col. 29, lines 42-65; col. 33, lines 27-50 -- Results may be identified based on a score);

[Claim 18] wherein the application templates can be reused and/or modified by users (col. 31, lines 34-49 -- The model may be redefined; col. 6, lines 51-55; col. 18, lines 1-

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11 -- Also, SQL is a modular, object-based language that naturally lends itself to reuse and/or modification of programmed modules);

[Claim 19] wherein a segment is a grouping of data elements from a database organized about one or more attributes (col. 19, lines 4-52; col. 20, lines 8-67 -- The knowledge model is applied to categories or bins of data);

[Claim 20] wherein a filter defines one or more attribute constraints applied to a segment (col. 19, lines 4-52; col. 20, lines 8-67 -- The knowledge model is applied to categories or bins of data that are selected, or filtered, from a larger warehouse of data);

[Claim 21] wherein a profile is a labeled collection of attributes of a segment (col. 19, lines 4-52; col. 20, lines 8-67);

[Claim 22] wherein a measure is an expression applied to a segment (col. 9, line 41 through col. 12, line 54 -- Neuroagents, programmed with various neuroexpressions, may be used during the learning and training phases; col. 29, lines 41-65; col. 33, lines 37-50 -- The fact that a score is generated to identify the best candidates implies that an expression is applied to a segment);

[Claim 23] wherein the computer-implement business analysis environment includes an object model, and the segments, attributes, filters, and measures comprise objects (col. 13, lines 1-12, 40-55; col. 14, lines 58-67 -- The Knowledge Model engine generates a knowledge model based on data mining techniques; col. 19, lines 4-52; col. 20, lines 8-67 -- The knowledge model is applied to categories or bins of data; col. 9, line 41 through col. 12, line 54 -- Neuroagents, programmed with various neuroexpressions, may be used during the learning and training phases. In order to

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accomplish this functionality, a workflow linking the elements of segment, filter, measure, and function is carried out; col. 18, lines 1-11 -- Also, SQL is an object-based language).

[Claim 24] wherein operations upon the objects are translated into SQL statements that access corresponding tables and columns in a relational database (col. 6, lines 51-55; col. 17, lines 47-67; col. 18, lines 1-11 -- The data warehousing techniques are adapted to work with SQL commands. SQL operates in a relational database environment by accessing corresponding tables and columns in a relational database and acting upon objects);

[Claim 25] wherein the predictive model comprises one or more SQL statements that access tables and columns in a relational database (col. 6, lines 51-55; col. 17, lines 47-67; col. 18, lines 1-11 -- The data warehousing techniques are adapted to work with SQL commands. It is well-known that SQL operates in a relational database environment by accessing corresponding tables and columns in a relational database and acting upon objects);

[Claim 26] wherein the predictive model comprises one or more statements executed by a database management system (col. 13, lines 1-12, 40-55; col. 14, lines 58-67 -- The Knowledge Model engine generates a knowledge model based on data mining techniques; col. 19, lines 4-52; col. 20, lines 8-67 -- The knowledge model is applied to categories or bins of data; col. 9, line 41 through col. 12, line 54 -- Neuroagents, programmed with various neuroexpressions, may be used during the learning and

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training phases; col. 33, lines 37-50 -- The fact that a score is generated to identify the best candidates implies that an expression is applied to a segment);

[Claim 27] wherein the statements access data stored in the database management system (col. 17, line 47 through col. 18, line 23 -- Data is accessed through a data warehouse; col. 13, lines 1-12, 40-55; col. 14, lines 58-67 -- The Knowledge Model engine generates a knowledge model based on data mining techniques; col. 19, lines 4-52; col. 20, lines 8-67 -- The knowledge model is applied to categories or bins of data; col. 9, line 41 through col. 12, line 54 -- Neuroagents, programmed with various neuroexpressions, may be used during the learning and training phases; col. 33, lines 37-50 -- The fact that a score is generated to identify the best candidates implies that an expression is applied to a segment);

[Claim 28] wherein the model-building mechanism comprises an analytic algorithm for rule induction performed against data stored in a database management system to create the predictive model system (col. 17, line 47 through col. 18, line 23 -- Data is accessed through a data warehouse; col. 13, lines 1-12, 40-55; col. 14, lines 58-67 -- The Knowledge Model engine generates a knowledge model based on data mining techniques; col. 19, lines 4-52; col. 20, lines 8-67 -- The knowledge model is applied to categories or bins of data; col. 9, line 41 through col. 12, line 54 -- Neuroagents, programmed with various neuroexpressions, may be used during the learning and training phases; col. 33, lines 37-50 -- The fact that a score is generated to identify the best candidates implies that an expression is applied to a segment).

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[Claims 1, 4-14] Claims 1 and 4-14 recite limitations already addressed by the rejection of claims 15 and 18-28 above; therefore, the same rejection applies.

[Claims 29, 32-42] Claims 29 and 32-42 recite limitations already addressed by the rejection of claims 15 and 18-28 above; therefore, the same rejection applies.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 3, 16, 17, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pham et al. (U.S. Patent No. 5,970,482), as applied to claims 1, 15, and 29 above.

[Claims 16, 17] Figures 8-23(b) of Pham show various interfaces (or application templates) utilized by a user to access and specify various segment, filter, measure, and function information. Also, col. 6, lines 51-55 and col. 18, lines 1-11 of Pham disclose that the data warehousing techniques are adapted to work with SQL commands. SQL runs in a visual programming environment. However, Pham does not expressly teach that the sequence linked together in the workflow is *represented as icons that are linked together, wherein connecting arrows between the icons determine a sequence of execution and a flow of data* (claim 16), wherein the application template is constructed in a visual programming environment *by dragging and dropping the icons*

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in a graphical user interface and then linking together the icons to create the sequence of steps that comprise the workflow of the application template (claim 17). As discussed above, the segments, filters, measures, and functions of Pham are called upon as needed, thereby representing a link among these elements through a workflow. What is missing from Pham is an express teaching that the workflow details are established using drag and drop icons that are arranged with connecting arrows to depict the sequence of execution and a flow of data that define the workflow. However, Official Notice is taken that it is old and well-known in the art of graphical user interfaces to utilize drag and drop icons to allow a user to set up steps of a workflow. This practice facilitates quicker programming of desired workflow steps in a more user friendly fashion. Since Pham's workflow is defined by the users through a graphical user interface, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Pham such that the sequence linked together in the workflow is represented as icons that are linked together, wherein connecting arrows between the icons determine a sequence of execution and a flow of data (claim 16), wherein the application template is constructed in a visual programming environment by dragging and dropping the icons in a graphical user interface and then linking together the icons to create the sequence of steps that comprise the workflow of the application template (claim 17) in order to facilitate quicker programming of desired workflow steps in a more user friendly fashion.

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[Claims 2-3] Claims 2-3 recite limitations already addressed by the rejection of claims 16-17 above; therefore, the same rejection applies.

[Claims 30-31] Claims 30-31 recite limitations already addressed by the rejection of claims 16-17 above; therefore, the same rejection applies.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-42 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-45 of U.S. Patent No. 6,954,758.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-42 of the instant application are substantially similar to claims 1-45 of the patent. For example, the limitations of

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“applying a derived measure against a segment, wherein the derived measure comprises a predictive model previously-built by a model-building mechanism in a data mining system” and “generating output for the segment from the predictive model in the form of measure values” from claim 1 of the instant application either expressly or inherently require performance of the steps of “generating a definition for a derived measure,” “invoking a model-building mechanism in a data mining system based on the generated definition, wherein the model-building mechanism builds a predictive model that generates an output for the derived measure,” and “applying the derived measure against a segment by executing the predictive model, and generating an output for the segment from the predictive model” (as recited in claims 1 and 2 of the patent).

Additionally, claims 2-14 recite substantially the same limitations recited in claims 3-15, respectively, of the patent.

A similar argument is made for apparatus claims 15-28 of the instant application in relation to claims 16-30 of the patent as well as article of manufacturing claims 29-42 of the instant application in relation to claims 31-45 of the patent.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (571) 272-6733. The examiner can normally be reached on Monday-Friday, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Susanna Diaz", written in a cursive style.

Susanna M. Diaz
Primary Examiner
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November 10, 2006